What is claimed is:

1. A method for identifying one or more coordination complexes, comprising: a metal ion in a library, comprising:

(a) chemically synthesizing a library, wherein a plurality of members of said library comprise coordination complexes comprising a metal ion; and,

(b) isolating and identifying said members of said library,

(c) subjecting said members of said library to an assay; and

(d) comparing the response observed for any member of said library in said assay with the response of a coordination complex having the same metal ion which shows a detectable response in said assay.

2. The method of claim 1, wherein said library comprises at least about 12 different members comprising coordination complexes comprising platinum.

3. The method of claim 1, wherein said library comprises at least about 12 different members comprising coordination complexes comprising gadolinium.

4. The method of claim 1, wherein said library comprises at least about 90 different members comprising coordination complexes comprising platinum.

5. The method of claim 2, wherein said members of said library are identifiable because of spatial encoding in said library.

6. The method of claim 2, wherein said assay comprises comparing the response observed for any member of said library in said assay with the response of cisplatin or carboplatin in said assay and optionally the response of trans-DDP in said assay.

7. The method of claim 6, wherein one or more of said members gives a response that is quantifiably different from the response observed for trans-DDP and is at least about 25% of the response observed for cisplatin in said assay.

8. The method of claim 6, wherein one or more of said members gives a response that is at least about 75% of the response observed for cisplatin in said assay.

9. The method of claim 6, wherein said response of said one member in said assay results from a non-covalent complex between a nucleic acid adduct comprising said one member and a DNA structure-specific recognition protein.

10. The method of claim 9, wherein said structure-specific research protein comprises at least one HMG domain.

11. The method of claim 9, wherein said structure-specific recognition protein is of human, rodent, Xenopus, Drosophila or yeast origin.

12. The method of claim 9, wherein said structure-specific recognition protein is one of the following: HMG-1, HMG-2, UBF, LEF-1, SRY, mtTFA, LXR1, ABF or SSRP.

13. The method of claim 1, wherein a plurality of said members of said library are represented by the general formula comprising $\{PtL_nL'_m\}$, wherein: (a) L and L' are each independently a neutral ligand; and (b) n or m may each independently be 0, 1 or 2 as long as the sum of the coordination bonds formed between Pt and L_n and L'_m is 1 or 2.

14. The method of claim 13, wherein said $\{PtL_nL'_m\}$ has one to four additional ligands coordinated to the platinum metal ion.

15. A method for preparing a library of members, comprising: coordination complexes, comprising:

(a) optionally reacting one or more starting coordination complexes with one or more activating agents;

(b) synthesizing a plurality of diversified coordination complexes as members of said library by reacting said starting coordination complexes with a first plurality of sets of one or more different ligands in a reaction mixture;

(c) adding to reaction mixture a reagent to remove a ligand of the metal ion of said diversified coordination complexes; and

(d) optionally further diversifying said diversified coordination complexes by reacting said diversified complexes with a second plurality of sets of one or more different ligands to synthesize a plurality of further diversified coordination complexes.

16. The method of claim 15, wherein said library comprises at least about 50 different members comprising coordination complexes comprising platinum.

17. A library, comprising: coordination complexes comprising platinum wherein a plurality of said members of said library are represented by the general formula comprising $\{PtL_nA_{(4-n)}\}$, wherein:

(a) each L independently is a non-labile ligand, and n is equal to 1, 2 or 3; and

(b) each A independently is a labile ligand.

18. The library of claim 17, wherein each L is independently one of the following: NH_3, primary amine, secondary amine, heterocyclic amine, amide, sulfoxide, ether, thioether, thiol, thialate ester of phosphoric acid, ester of boric acid, ester of carboxylic acid, ester of carbonic acid, phosphines, or monohydroxylic or polyhydroxylicalcohol or the like.

19. The library of claim 17, wherein at least one L is sterically hindered.

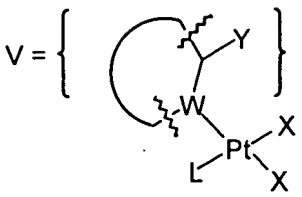
20. The library of claim 17, wherein each L is a neutral ligand.

21. The library of claim 17, wherein at least one L is a thiolate.

22. The library of claim 17, wherein each A is a ligand with one or more negative charges.

23. The library of claim 17, wherein each n is equal to 2, and wherein said two L ligands are in a cis-configuration around said platinum metal ion.

24. A coordination complex, comprising: a structure represented by the formula:

V = 

wherein, independently for each occurrence:

X represents halogen or other labile ligand;

W represents S, N, or P;

Y represents -OR7, -SR7, a halogen or -N(R9)R10;

R9 and R10, each independently, represent -H, alkyl, alkenyl, -$(CH_2)_n$-R7, or R9 and R10, taken together with the N atom to which they are attached complete a heterocycle having from 4 to about 8 atoms in the ring structure, all optionally substituted;

L represents a non-labile ligand; and

R7 represents -H, alkyl, aryl, cycloalkyl, cycloalkenyl, heterocycle or polycycle;

wherein the ligand V comprises W, Y, and a heterocycle having from 4 to about 8 atoms in the ring structure, optionally aromatic and optionally substituted.

25. The coordination complex of claim 24, wherein W is N.

26. The coordination complex of claim 24, wherein Pt is Pt(II).

27. A pharmaceutical composition, comprising: a therapeutically effective amount of a coordination complex of claim 24 and a pharmaceutically acceptable carrier.

28. The pharmaceutical composition of claim 27, wherein said coordination complex is ammine(2-amino-3-picoline)dichloroplatinum(II).

29. A method of treatment for neoplasms, comprising: administering a therapeutically effective amount to a subject of the pharmaceutical composition of claim 24.

30. A diagnostic tool, comprising: a coordination complex of claim 24, wherein the metal ion is suitable for imaging.

31. A method of treating neoplasms, comprising: contacting eukaryotic cells with a coordination complex identified by a method comprising:

(a) chemically synthesizing a library, wherein a plurality of members of said library comprise coordination complexes comprising platinum; and,

(b) identifying one or more of said coordination complexes comprising platinum on the basis of a quantifiable difference in the response observed for said identified complex in an assay as compared to the response observed for trans-DDP in said assay,

wherein said library has at least 12 members.

32. The method of claim 31, further comprising contacting said cells with nucleic acid encoding a DNA structure-specific recognition protein under conditions sufficient for said nucleic acid to be internalized and expressed within said cells.